AN ACTION PLAN FOR CARS:

The Policies Needed to Reduce U.S. Petroleum Consumption and GHG Emissions

Professor John Heywood, Director of the Sloan Automotive Laboratory at MIT with a team of ten graduate students and colleagues is finalizing this "Action Plan for Cars." The objective is to incentivize vehicle purchasers and users to buy more fuel-efficient vehicles and use them more effectively, the automobile manufacturers and their suppliers to produce such vehicles, and fuel producers to supply lower GHG generating fuels as they become available. The following is a summary of our proposal.

We are convinced that, to address the related challenges of rising greenhouse gas emissions and increasing dependence on imported petroleum, a coordinated portfolio of policies must be implemented to reduce fuel consumption of both new and in-use vehicles, and increase the displacement of petroleum fuels by less carbon-intensive non-petroleum alternatives. Policies aimed at reducing demand for vehicle travel are also very important, but we do not specifically address such policies in this proposal.

To reduce the fuel consumption and GHG emissions of new vehicles, we recommend this set of complementary policies.

1. **Develop a longer term set of targets and schedule for increasing the Corporate Average Fuel Economy (CAFE) standards** beyond 2020 to ensure continuing progress on reducing the fuel consumption, while allowing manufacturers adequate lead time to fully incorporate CAFE increases in their product planning cycles. We also recommend that this time-tested program be strengthened through the elimination of several perverse incentives that tend to undermine it.

2. **Increase taxes on motor fuels.** We recommend that the federal fuel tax be increased by 10 cents per gallon each year for at least the next 10 years, in order to internalize the external costs of fuel use and driving. This increase would stimulate the purchase of more fuel-efficient vehicles and motivate consumers to drive more efficiently and consider other transportation choices.

3. **Implement a "feebate" incentive system at time of vehicle purchase** to encourage consumers to give greater weight to fuel consumption in their purchase decisions, by providing rebates on the purchase of lower-consuming vehicles and charging fees on higher-consuming vehicles. We recommend that the fee or rebate amount vary by $1,200 for each gallon-per-100-miles change in fuel consumption, which would result in more than 95 percent of current vehicles receiving between a $2,000 rebate and a $2,000 fee, depending on their fuel consumption.

In addition to the policies largely aimed at improving the fuel consumption of new vehicles, we recommend that a major sustained effort be made to improve the information available to vehicle purchasers and drivers, on two main fronts:

4. **A driver education program** should be established to provide the public with reliable information on how moderating their driving habits can reduce in-use fuel consumption. Drivers with the least efficient driving habits can consume as much as 25% more fuel per mile than the most efficient drivers.

5. **Consumer labeling provisions related to vehicle fuel economy** should be updated to reflect the realities of today's car-shopping process, by standardizing the presentation of key fuel consumption information available on car-buying websites and displayed on the vehicle.

These educational and information providing initiatives could also be coupled with an assessment of vehicle speed limits and enforcement practices, especially those that effect high speed driving. As average vehicle speeds rise above about 50 mph, fuel consumption starts to increase substantially with speed.

In parallel, we recommend a set of initiatives aimed at resolving key failures in the market for alternative automotive fuels. Critical key issues regarding increasing the supply and utilization of alternative fuels to displace and supplement those derived from petroleum are cost, the greenhouse gas emissions that result from producing these potential alternative fuels, the compatibility of these fuels with existing vehicles and with existing fuel supply and distribution systems. No one yet understands these issues sufficiently to identify the most promising fuel opportunities and how they could be introduced into the market. Accordingly, we recommend that:

6. **We develop the knowledge base and analysis procedures to internalize the costs of greenhouse gas emissions** by ensuring that emissions of greenhouse gases from all stages of a fuel's production and use are included under any national cap and trade or carbon tax system.

7. **We develop through appropriate study and assessment a national strategy for developing alternative fuel supplies**, and identify production build-up pathways that would move the U.S. towards these lower GHG emissions fuels opportunities.

8. **Based on this alternative fuels national strategy, we identify the incentives needed to initiate and increase deployment of those fuels, and effective policies that incorporate such incentives.**

Our analysis of the opportunities available for deploying more fuel efficient vehicle technologies effectively, and increasing the supply of alternative lower-greenhouse-gas emitting fuels, clearly indicates the need for this combination of policies and assessments to move aggressively to reduce overall fuel consumption and GHG emissions from light-duty vehicles.

7/15/09